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THE CURE OF COMPLETE PROLAPSE OF THE RECTUM BY POSTERIOR PROCTECTOMY.[1]

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The means ordinarily advocated for the treatment of complete prolapse of the rectum seem to me either inefficient or too radical and dangerous. Searing the mucous membrane of the extruded intestine with nitric acid belongs to the first category; amputation of the prolapsed bowel to the second. It is possible that cauterization may be of service in mild cases of the affection; but it cannot be of much value when three or four inches of the everted bowel protrude through a widely dilated anus. The operation which I have designated posterior proctectomy is very efficient in such cases, and is, at the same time, more logical and probably very much less dangerous than amputation of the rectum.

In the *Annals of Surgery* for April, 1890, I described what I believed to be a new method of operating for rectal prolapse, and reported a case so treated. Further observation of the patient has convinced me that my confidence in the value of the procedure was well founded. This opinion has been substantiated by the reports of two cases in the hands of other surgeons who operated by my method. A short account of these three cases will perhaps show that evidence is not wanting to warrant my confidence in the utility of the operation.

Case I. *Dr. Roberts's case. Prolapse of the rectum of fourteen years' duration cured by posterior proctectomy.*—A woman, aged thirty-four years, a weaver, had from the age of twenty suffered with prolapse of the rectum. The protrusion had originally occurred suddenly while she was at work and during menstruation. Her recollection is that the extruded portion was about three inches long; that she had looseness of the bowels, and was confined to bed about a week. Since that time the condition had continued. She always replaced the bowel after defecation, and had control of the contents of the rectum except when diarrhœa existed. About three years before she came under my observation she had been treated for what was considered to be membranous enteritis associated with the prolapsed rectum.

During the many years that this woman had endured the annoyances of her disease she had been treated by various local and internal remedies. The prolapse had, however, continued to increase and the anal

[1] Read before the Philadelphia Academy of Surgery, November 7, 1892.

aperture to become more and more dilated, until, when I saw her, a sausage-shaped mass about four inches long protruded through an anus into which I could readily insert the ends of my five fingers. The bowel was easily reduced, but soon slipped down between the buttocks, so that it was practically always prolapsed. The woman was dejected, nervous, emaciated and unable to work.

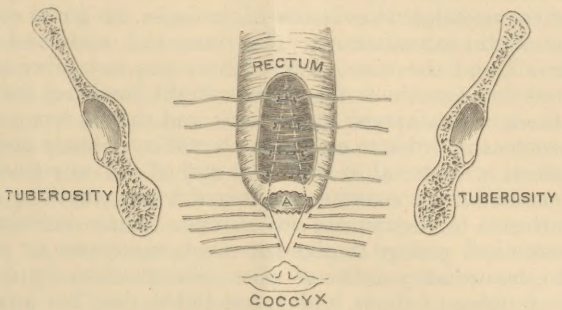
My dissatisfaction with the operations ordinarily recommended and a study of the mechanical problems presented led me to the conclusion that to narrow the calibre of the lower part of the rectum and at the same time diminish the size of the anal opening were the indications. This, I thought, would give the weakened and dilated sphincter muscle an opportunity to prevent the exit of the lower part of the bowel. At the same time there would be less tendency to invagination of the rectal wall, because the lower portion of the gut would be narrower than that part which the downward thrust of the pelvic contents tended to extrude. Cicatricial influences, moreover, would make the coats of the bowel more rigid and less easily inverted and doubled upon themselves.

The operation which I devised to meet these ends was carried out, and proved eminently satisfactory.

The patient was put in the lithotomy position, and the protruded rectum fully reduced. I then made a small incision in the median line of the perineum, near the point of the coccyx; into this I inserted my finger and broke up the cellular connections posterior to the rectum, in a manner similar to that adopted in excision of the lower end of the rectum for carcinoma. A knife was then introduced into the dilated anus at a point half an inch to the right of the median line, and a deep incision carried obliquely backward, so that it divided the anal sphincter and skin from the aperture of the bowel to the original incision made at the end of the coccyx. The knife was then introduced into the anus upon the left side of the median line, and a similar incision carried back to the original wound in the perineum. These oblique incisions included between them a triangular portion of tissue consisting of skin, subcutaneous cellular tissue and an inch of the sphincter muscle. The base of the triangle was at the margin of the anus; its apex was at the extremity of the coccyx. About one inch of the sphincter muscle was thus excised by the two incisions. With scissors, I then cut out of the posterior wall of the rectum a long triangular piece embracing the entire thickness of the wall, which, in the first step of the operation, had been separated from its pelvic connections. The apex of this V-shaped section of the wall of the rectum was situated about three inches up the gut, while its base corresponded with the inch of the sphincter muscle of the anus, which had been included between the incisions previously described.

After hemorrhage had been controlled by catgut ligatures, chromicized catgut sutures were used to bring the divided wall of the rectum together. The first suture was introduced at the apex of the rectal wound; that is, three inches above the anus, and was tied with the knot within the bowel. Successive sutures were similarly inserted and tied at intervals of about one-third of an inch. The last intra-rectal suture was placed just inside the margin of the anus. The sutures were all tied with the knots upon the mucous surface of the bowel. It is possible that it would have been better to have used silk for these sutures, as they would probably have held the parts in apposition longer than catgut,

even though it had been chromicized. As an aseptic condition of the wound in this situation is almost unattainable, I am inclined to think that hereafter I shall use silk instead of gut. This portion of the operation greatly reduced the lumen of the rectum, and was intended to make the lower part of the intestine funnel-shaped, with the small end of the funnel toward the anus.



The ends of the divided anal sphincter, which were left by the excision of one inch of that muscle, were then brought together by two catgut sutures and one wire suture, which was shotted. The anus was thus reduced in diameter so that it was barely possible for me to introduce the tip of one finger, whereas before the operation the ends of five fingers could readily be thrust into it.

A rubber drainage-tube was then introduced into the space between the rectum and the sacrum, and the wound leading backward from the anus to the coccyx was closed by numerous shotted-wire sutures carried deeply through the structures by means of a strong curved perineum needle. This procedure made the rectum diminish gradually in calibre as it approached the anus, instead of being, as it was previously, a sort of funnel-shaped cavity with its widest end towards the external opening. The new condition was as inhibitory to the occurrence of prolapse as the previous one was favorable to it. Owing to diarrhœa, which occurred a day or two after the operation, fecal matter obtained access to the space behind the rectal wall; and, as a result, suppuration, sloughing, and bleeding occurred. This interfered with the rapid healing of the divided structures, and destroyed what union had already taken place. On the fifth day I took out the wire stitches which had been inserted from the anus to the coccyx. It is possible that the diarrhœa which occurred was the result of the antiseptic washes, which, if I remember rightly, I employed through the drainage-tube. When I perform this operation again I shall endeavor to keep the rectum aseptic by packing it with gauze after the operation, and at the same time have the bowels confined by the use of opiates, so as to allow union by first intention to take place. The suppuration, sloughing, and secondary hemorrhage, which took place because fecal matter obtained access to the wound by the giving way of the rectal stitches, greatly retarded convalescence. It is possible, however, that the cicatricial contraction due to this inflamation added to the permanency of the cure effected.

For a long time after the operation, and even after the patient was discharged from constant supervision, there remained an opening pos-

terior to the anus leading into a small cavity back of, and communicating with, the rectum. This eventually entirely closed. The patient rapidly gained flesh after the operation, became strong and vigorous, and was able to go up and down stairs without any tendency to prolapse. She had control of the contents of her bowels, and was cured of the disgusting condition which had existed for so many years.

An examination made by me in September, 1891, nearly two years after operation, revealed no evidence of prolapse, as far as could be determined by digital examination. The sinus had remained closed, the anus was small, and the mucous membrane was not protruding. The patient stated that sometimes there was a slight tendency for the lower portion of the bowel to appear at the anus, and that it was necessary for her to use enemas in order to empty the bowel completely and to get rid of the sensation of material in the lower end of the intestine. Inquiry repeatedly made did not convince me that this was anything more than a slight protrusion of the mucous membrane. There certainly was not enough anatomical change to give her much annoyance or prevent her attending to the ordinary duties of life. She was seen by me for other conditions a number of times, and I concluded that her anxiety about the state of the rectum was the result of her fear of a return of the trouble —a mental attitude not surprising, considering her years of rectal disease.

I last saw her in April, 1892, when she was still well, though two and a quarter years had elapsed since the date of operation. The operation, therefore, was a satisfactory one, both to the patient and to me, and the cure effected has been permanent.

Case II. *Dr. Bell's case. Posterior proctectomy for prolapse of the rectum existing for five years and associated with injury to the back; cure.* —The case of Dr. James Bell, surgeon to the Montreal General Hospital, which he reported in the *Annals of Surgery*, 1891, vol. xiii. p. 333, is as follows: A woman, aged twenty-two years, suffered from rectal prolapse to such an extent that simply standing in the erect position or walking a few steps caused a protrusion of the walls of the bowel of from four to six inches in length. According to her history, she, at the age of ten years, fell from a height of ten feet, receiving the force of the blow upon her back. This accident was followed by incontinence of urine, and after two years by diarrhœa, which persisted, more or less, for five or six years. About five years before she came under Dr. Bell's observation the bowel began to prolapse, but was readily returned. The tendency to extrusion increased until the condition was as stated above. The incontinence of urine had persisted. She had only imperfect control of the sphincter muscle; when diarrhœa existed she had no control whatever over the contents of the rectum. There was loss of sensation over the buttocks and on the posterior surface of the thighs and calves, though there was no paralysis of the muscles of the lower extremities. No history of paraplegia could be obtained as having occurred after the injury, which she received when a child, and from which her present condition seemed to date. It is seen that the clinical history of the patient was somewhat obscure, as usually happens in cases of disease of long standing. The anus was so dilated that a man's hand of ordinary size could be easily introduced into the rectum. It was the opinion of Dr. Bell that the prolapse was secondary to a paralysis of the sphincter

muscle, which resulted from the injury received twelve years previously to the time of operation.

On May 22, 1890, he removed, by my method, from an inch and a half to two inches of the sphincter muscle and a V-shaped portion of the posterior wall of the rectum, the base of which corresponded to the section of the sphincter muscle. The apex of the triangular piece cut from the rectum was situated four inches up the bowel. Silk sutures were used to bring the edges of the rectal wall together and to unite the separated ends of the sphincter. The sutures used for the sphincter were stronger than those employed for uniting the rectal wall. A drainage-tube was then introduced at the coccyx, and carried up behind the line of sutures in the rectum. For eight days there was considerable inflammatory reaction. The temperature varied from 99° to 101° F., and on one occasion it reached 102° F. After the eighth day the temperature remained normal, and the patient was free from pain. The sutures were then removed from the sphincter and the drainage-tube withdrawn. A small sinus was discovered leading from the lumen of the bowel, just within the sphincter muscle, to the opening left by the drainage-tube. Through this some fecal matter passed during defecation. The patient had an uneventful convalescence; was allowed to sit up after six weeks, and was discharged in a little less than twelve weeks, in better health than she had been for years. She had much more control of the sphincter muscle than before. No fecal matter escaped by the small sinus still existing at the point of the coccyx, through which a fine probe could be passed into the rectum, and there was no tendency to prolapse of the wall of the intestine.

The patient reported to the operator on October 28, 1890, who makes this note of the examination: "The wound was then completely healed, the control of the sphincter was good—much better than before the operation—and the general health excellent. She stated that for two months she had been actively engaged in doing housework, going up and down stairs, etc., and that no sign of prolapse had ever been observed." Dr. Bell, in his article, says further, that the operation recommended by Dr. Roberts is sound in principle as well as safe and simple in practice, and seems to leave little to be desired. He thinks that ventral fixation of the sigmoid flexure, as carried out by Dr. McLeod, of Calcutta, is theoretically objectionable.

I have obtained a later account of this patient from the operator, who under date of October 13, 1892, says: "The after history of my case of prolapse of the rectum, on which I operated by the method described by you, has been perfectly satisfactory. The patient, who lives about sixty miles from Montreal, presented herself for examination, at my request, in November, 1891. There had been no return of the prolapse, and she had almost perfect control of the sphincter—better than she had had for years before the operation. Her general health was greatly improved, and she expressed herself as delighted with the result. I have not heard from her since. I am still of the opinion that this operation is the best and most rational that has yet been proposed for complete prolapse of the rectum."

Case III. *Dr. Kammerer's case. Posterior proctectomy in a man, followed by permanent cure.*—At a meeting of the New York Surgical Society, October 28, 1891, Dr. F. Kammerer exhibited a man, aged forty-five years, upon whom he had operated by this method. The

patient, who had suffered with the condition from boyhood, had, at the time of the operation, a prolapse of the walls of the rectum measuring about three and one-half inches. When the bowel was replaced three fingers could readily be introduced into the rectum through the relaxed sphincter muscle of the anus.

About one and one-half inches of the sphincter were removed, with a portion of the rectal wall extending upward about four inches. The walls of the rectum were united by a continuous catgut suture, which was also the method used for bringing the other parts of the wound together. The part of the cavity lying underneath the coccyx was packed with iodoform gauze, because it could not be entirely closed with sutures. The sutures through the sphincter muscle were reinforced by several deep sutures of silkworm-gut. After the parts united, a rectal fistule was left at the end of the wound near the coccyx. This closed, however, at the end of three months.

The operation, which had been performed about six months before the exhibition of the patient, was, according to the statement of the operator, a complete success. There was "no recurrence of the prolapse, cessation of catarrh and ulceration of the rectum, and perfect control over feces and flatus."

I received a letter from Dr. Kammerer last month (October, 1892) in which he says, in reference to this case: "I can only add that the patient has had no recurrence whatever of his former trouble, and has complete control over his sphincter."

The history of these cases has been presented, because I believe that there must be merit in an operation which has proved so successful in curing every case in which, as far as my knowledge goes, it has been employed. The method has now the indorsement of two surgeons, who previously were unacquainted with me, and who in each instance were as successful as I in obtaining a permanent cure. The evidence of the utility of the operation is greatly reinforced by this testimony and by the long time after operation at which all the patients were subjected to re-examination.